# AI-Assisted Coding Intro – Exercises

Exercises and homework assignments for “Introduction to Programming with AI” course at SoftUni.

## Install and Configure VS Code + GitHub Copilot

Your first task is to install, configure and run VS Code with GitHub Copilot.

### Install Node.js

**Node.js** is a local JavaScript runtime for developers:

<https://nodejs.org>

**Download** and **install Node.js**. You will need it to develop and deploy JS apps.

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### Install VS Code

**VS Code** (Visual Studio Code) is a popular, modern software development environment (IDE), where developers write code, execute the code, debug and bug fix the code, test the code, create, bundle and deploy apps, using a mix of programming languages and software technologies, such as JavaScript, HTML, CSS and React.

Your first step is to **download** and **install** **VS Code**.

Open the official website of VS Code: <https://code.visualstudio.com>.

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**Download** the VS Code installer and run it:

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After the installation, **launch VS Code**. It will start with a **dark theme** (by default) and will show its welcome page “***Getting Started with VS Code***”:

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### Switch to a Light Theme

Some developers prefer **dark themes** (night mode), others prefer **light themes** (daytime mode). You may switch to some “light theme” if you don’t like the night mode, which comes by default after installation:

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### Setup GitHub Copilot

**GitHub Copilot** is modern, powerful **AI-assisted coding agent**, integrated in VS Code as built-in extension. It is already installed in VS Code, so you don’t need to install it explicitly. With **GitHub Copilot** developers write commands in natural language (AI prompts) to create / edit / fix the code and perform other development tasks.

Your next step is to **configure GitHub Copilot**, your AI coding assistant.

To set up GitHub Copilot in VS Code, you will need to **login with your GitHub account** (or register a new GitHub account, if you don’t have):

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Next, you need to **authorize** the connection between VS Code and your GitHub account:

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After successful connection, you will see the default VS Code “**Welcome**” screen.

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Now you are ready to create your first app with GitHub Copilot.

## Apply for GitHub Education

This section **applies only to active SoftUni students**, who are successfully enrolled in one or several SoftUni paid training courses / programs in the last 6 months. They are eligible to enroll for **2 years of free GitHub Copilot Pro plan** through the [**GitHub Education**](https://education.github.com/pack) program.

GitHub Copilot is a **paid** product and its free plan [**Copilot Free**](https://github.com/features/copilot#pricing)is **highly limited** (50 chat messages / month, with limited access to frontier LLM models). Most developers need at least “**Copilot Pro**” for their daily work (or study).

You can use [**Copilot Pro**](https://github.com/features/copilot) (with higher message limits and access to the latest frontier LLM models for coding) with a [30 days **trial**](https://github.com/github-copilot/pro) license, or with a paid plan, or by obtaining a [free license for verified students](https://education.github.com/pack).

### About GitHub Education

GitHub offers **free 2 years of Copilot Pro** through their GitHub Education program, but only to “**verified students**“. Their verification procedure is not easy to pass, so follow the instructions below.

[**GitHub Education**](https://education.github.com) is an academic program from GitHub. It aims to provide students worldwide with free access to the latest professional **products and services from GitHub**, such as GitHub Copilot, as well as 1-2 years of free access to professional dev tools and services from partners, like Azure cloud, Heroku, Digital Ocean, JetBrains, BrowserStack, Notion, Algo Expert, Interview Cake, DataCamp, Namecheap, Name.com and many others.

You can start your application process here: <https://education.github.com/pack>

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As a verified student, you can get GitHub Education benefits such as **free Copilot Pro**, **free cloud credits**, **free Internet domains**, **free certification exams**, and many other developer perks — so the effort to complete the verification process is well worth it.

### Verify Your SoftUni University Email in GitHub

After enrollment at SoftUni students get their **university email address**, e.g. [*your.name*@students.softuni.bg](mailto:your.name@students.softuni.bg). Your university email address is issued after **successful enrollment in SoftUni paid course / program**. You will receive instructions on how to activate it by email. For more information, contact SoftUni: <https://softuni.bg/contacts>.

This is how your **university mailbox** may look like, when you get access to your student email address:

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Once you get access to your university email address, **register your *students.softuni.bg* email to your GitHub profile** and verify it from your GitHub account settings: <https://github.com/settings/emails>.

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### Get Your SoftUni Student ID Card

After successful enrollment in SoftUni active students get their “**SoftUni student ID card**”. This card is a **digital document**, not a plastic card! You can view or download it here:

<https://softuni.bg/users/profile/show>

This is how your **student profile at SoftUni** holding your **student ID card** may look like:

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### Application Process at GitHub Education

After you have access to your **university email address** from SoftUni + your **SoftUni student ID card**, you are ready to apply for **GitHub Education benefits**. Open this link and start your application:

<https://github.com/settings/education/benefits>

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During the application process, you need to **choose a school**, prove your association with this school by providing a **verified school email address**, **share your physical location**, and take a photo of your student ID card.

Choose your **school** “Software University (SoftUni)”. At this step you need to have a **verified university email address** (e.g. [your.name@students.softuni.bg](mailto:your.name@students.softuni.bg)) in your GitHub profile. Share your **location** and go ahead:

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GitHub will ask you to take a photo of your **student ID card**. You can just open your ID card on your smartphone and take a photo of your screen it with your laptop’s camera. This is an example:

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Now your application will be **submitted for processing** to GitHub Education:

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**Wait a few minutes** to see if your application will be **approved** or **rejected**:

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You can see the state of your application at any moment here: <https://github.com/settings/education/benefits>.

Once your application is approved, it **takes 3 days** (72 hours) to get access to your student benefits. If you try to access your student benefits earlier, you will see this message:

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Yes, this is **slow**, but you cannot speed up the process. **You should wait 2-3 days!**

Finally, you will receive a **“*Welcome to GitHub Education*” email** in a few days after approval:

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The status of your education benefits application will change to “**Coupon applied**”:

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Now you have access to your [**GitHub Education Student Developer Pack**](https://education.github.com/learner/learn), and you can activate your **free GitHub Copilot Pro license** here: <https://github.com/github-copilot/free_signup>.

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You can check if you have **GitHub Copilot Pro subscription** here: <https://github.com/settings/copilot/features>.

This is the **Copilot Pro plan** activated in your GitHub account:

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You may also activate some other benefits (like free domains, certification exams and cloud services) from your **GitHub Education Student Developer Pack**: <https://education.github.com/pack>.

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## Vibe Code a Single-Page Website

Your task is to **vibe code** a simple **single-page Website** (with HTML + CSS) using GitHub Copilot in VS Code. The topic of your website could be of your choice, e.g.

* Website for dental practice: home page, treatments, reviews, fees, contacts.
* Website for construction service company: home page, services, promotions, contacts.
* Website for accounting service company: home page, services, prices, contacts.

### Create a New Empty Project

There is no [Create a New Project] command in VS Code. Instead, you can create a **new empty folder** in the file explorer and then use [Open Folder] in VS Code. Start with a **new empty Window**:

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Click **[Open Folder]** to select the working folder for your project:

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Create a **new folder**, with a **meaningful name**, matching your project idea:

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Now you have an **empty project in VS Code**, and you are ready to vibe code your project:

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### Write an AI Coding Prompt

You may use a similar **prompt** in **GitHub Copilot** (this is just an example):

|  |
| --- |
| Create a website for a construction services company with the following sections: Home, Services, Promotions, News, and Contacts.  Implement it as a single-page layout featuring a header, a top menu with links that scroll to each section, the individual site sections, and a footer.  Use a clean, modern, responsive design, that looks well on both laptop and smartphone.  Fill the site with relevant sample content and include appropriate images from free image banks.  Technologies: HTML and CSS, with external icons, without JavaScript. |

Choose **appropriate AI model**, suitable for coding. This is an **example** of how you can vibe code a single-page site:

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### View the Generated Website

**Open** the generated HTML page. First **open the project folder** in the file explorer, then **double click the HTML file**.

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Important note: **show file extensions** in your file explorer to see the “**.html**” part of the file name:

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Your default web browser will **open and visualize** your AI-generated Web site:

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## Vibe Code a Mini Calculator App

Your task is to **vibe code** with GitHub Copilot in VS Code, a simple **mini calculator app in HTML + JS**: single-screen app to **enter some data** and perform a **simple calculation**. The calculation in your app could be of your choice. Here are some examples:

* Metric converter: convert between kilometer, mile, meter, centimeter, inch, millimeter, foot, yard.
* Body Mass Index (BMI) calculator: enter age, gender, height, weight, and calculate and visualize BMI.
* Bathroom tiles calculator: enter bathroom floor size (width and height), floor tile size (width and height), wall height, wall tile size (width and height) and calculate how many floor tiles and wall tiles will be needed.

### Create a New Empty Project

Create a **new empty folder** and open it with VS Code. Give it a meaningful name.

### Write an AI Coding Prompt

You may run a **prompt** like in the example below in **GitHub Copilot**:

|  |
| --- |
| Create a simple bathroom tile calculator app.  Users first enter the bathroom parameters:  - floor dimensions (width and length), floor tile dimensions (width and length)  - wall height, wall tile dimensions (width and height)  - door size (width and height)  The app should then calculate the number of floor tiles and wall tiles required.  After the calculation, display a clear visualization, such as a blueprint or layout, of the bathroom floor and 4 walls with the tiles.  Assume all measurements are in millimeters. Consider a standard waste allowance for tile cutting and fitting.  Design the app with a modern, visually appealing, and responsive user interface.  Technologies to use: HTML, CSS, and JavaScript. Split the code into reasonable modular components to improve reading and maintainability. |

### Run the Generated App

**Run** the generated app in your Web browser: open the main page “**index.html**”. This is an example:

A screenshot of a bathroom tile calculator

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## Deploy the App to Netlify

Now, **publish your app** live on the Internet. We shall use **Netlify** – a free cloud-based app hosting service.

### Register a Netlify Account

First, register a free **account in Netlify** (if you don’t have): <https://www.netlify.com>.

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This is how your **Netlify dashboard** may look like:

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### App Deployment Prompt

You can try this simple **AI prompt in GitHub Copilot**:

|  |
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| Deploy this app to Netlify. |

The AI dev agent will install the required **“Netlify CLI” tools** to handle the deployment procedure:

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### Authorize Netlify-CLI with Netlify

**Authorize the connection** between **Netlify-CLI** app, running on your laptop and your **Netlify.com account**:

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### Configure the Deployment

Follow the instructions in the Terminal:

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### Deployment Completed

After a while, your app will be **prepared**, **uploaded** and **published** to Netlify:

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Now your app is **live on the Internet**:

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